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July 2, 2020

Ms. Kimberley A. Campbell
Chief Clerk
North Carolina Utilities Commission
430 N. Salisbury Street
Raleigh, NC 27603

RE: *In the Matter of the Application of Apex Solar, LLC to Amend the CPCN to Construct a 30-MW Solar Facility in Cleveland County, NC Docket No. SP 11723, Sub 0*

Dear Ms. Campbell:

On behalf of Apex Solar, LLC, in the above referenced matter and docket, we herewith provide the **Direct Testimony of Richard Kirkland.**

Should you have any questions concerning this filing, please do not hesitate to contact me.

Sincerely,

/s/ Karen M. Kemerait

Karen M. Kemerait

KK:skb

Enclosures

Cc: All parties of record

A Pennsylvania Limited Liability Partnership

California Colorado Delaware District of Columbia Florida Georgia Illinois Minnesota
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**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. SP-11723, SUB 0

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

**In the Matter of)
Application of Apex Solar, LLC, for a Certificate of)
Public Convenience and Necessity to Construct a 30-)
MW Solar Facility in Cleveland County, North)
Carolina)**

DIRECT TESTIMONY

OF

RICHARD KIRKLAND

ON BEHALF OF

APEX SOLAR, LLC

July 2, 2020

1 Q. **Please state your name and business address.**

2 A. My name is Richard Kirkland. My business address is 9408 Northfield Court,
3 Raleigh, North Carolina 27603.

4 Q. **Please briefly summarize your educational background and work experience.**

5 A. I graduated from the University of North Carolina at Chapel Hill with a Bachelor
6 of Arts degree in English. I was a commercial appraiser for Hester & Company in
7 Raleigh, North Carolina from 1996 until 2003, and I have worked for Kirkland
8 Appraisals, LLC in Raleigh, North Carolina from 2003 until the present. A
9 summary of my qualifications is attached as Exhibit 1.

10 Q. **By whom are you employed and in what capacity?**

11 A. I am the Chief Executive Officer and President of Kirkland Appraisals, LLC.

12 Q. **Please discuss your credentials.**

13 A. I have twenty-four years of experience in commercial real estate appraisals. I am a
14 member of the Appraisal Institute (designation #11796) and a North Carolina
15 State Certified General Appraiser (#A4359). I have researched hundreds of solar
16 farms in numerous states to determine the impact of these facilities on the value of
17 adjacent property. This research has primarily been in North Carolina, but I have
18 also conducted market impact analyses in Virginia, South Carolina, Tennessee,
19 Texas, Oregon, Mississippi, Maryland, New York, and Montana. However, the
20 study that I have performed for the Apex Solar, LLC (“Apex Solar”) project has
21 focused on North Carolina properties, and includes paired sales analyses, a
22 breakdown of adjoining uses to solar farms, proximity to existing residences, and
23 typical landscape screens.

1 **Q. What is the purpose of your testimony?**

2 A. The purpose of my testimony is to provide expert opinions on the potential
3 impacts, if any, of the proposed Apex Solar farm on adjacent property values, and
4 whether the Apex Solar farm will be in harmony with the area in which it is to be
5 located.

6 **Q. Please describe the proposed facility for which Apex Solar, LLC seeks a
7 CPCN.**

8 A. The proposed facility is described in detail in the Application for an Amended
9 Certificate of Public Convenience and Necessity (“CPCN”) filed in this docket on
10 September 16, 2019, along with the high resolution site plan filed on September
11 13, 2019 (the “Facility”). The Facility will be located on the west side of
12 Plainsville Church Road, approximately 0.5 miles west of the intersection with
13 East Stage Coach Trail, Lawndale, Cleveland County, North Carolina. The total
14 acreage of the underlying tracts is 475 acres. The solar panels will be located on
15 321 acres and the area of disturbance will include 357 acres. The adjoining land is
16 a mix of agricultural and low density residential property, with a religious and
17 commercial adjoining uses as well.

18 It is my understanding that Apex Solar plans to sell the electricity to Duke
19 Energy Carolinas, LLC.

20 The Facility will consist of solar panels lower to the ground than a typical
21 residential home. There will be grass growing under the solar panels to maintain
22 very low impervious surface. The Facility will be surrounded by chain link
23 fencing and landscaped buffers.

1 It is anticipated that the Facility will be placed in service in November
2 2021.

3 **Q. Have you read the comments filed by Carrie and Gene Daves, Ronald**
4 **Ingram, Dana Donaldson, and Tom and Karen Bess filed in this docket?**

5 A. Yes.

6 **Q. What is your response to their comments?**

7 A. With respect to the specific concerns related to the impact of the Facility on
8 adjacent property values raised in submissions filed by Ms. Bess, Mr. and Ms.
9 Daves, and Mr. Ingram, it is my professional and expert opinion that the Facility
10 will have no impact on the property values of the surrounding properties. It has
11 been my experience that most concerns from neighbors are related to the
12 appearance of solar farms and the possible negative effects on property values. As
13 outlined above, I have found solar farms to have no impact on property values,
14 and any appearance concerns are typically alleviated with buffering and
15 landscaping. A copy of a report supporting my conclusions and opinion is
16 attached as Exhibit 2.

17 **Q. Please summarize the findings and conclusions of your report.**

18 A. My report concludes that the solar farm proposed at the subject property will not
19 substantially injure the value of adjoining or abutting property, and that the
20 proposed solar farm is in harmony with the surrounding area. These conclusions
21 are based on: (1) a series of matched pair analyses of properties located across
22 North Carolina, showing that being located next to a solar farm has no impact on
23 the value of residential or agricultural property; (2) a harmony of use analysis

1 finding that the proposed solar farm will be compatible with nearby residential
2 and agricultural uses in terms of noise, odor, and traffic; and (3) an informal
3 survey of real estate professionals who have sold properties located near other
4 solar farms in North Carolina, indicating that solar farms do not diminish the
5 market value of adjoining land.

6 **Q. What is your recommendation with respect to Apex Solar's Application for**
7 **an Amended CPCN?**

8 A. It is my recommendation that the Commission issue an order awarding an
9 Amended CPCN for the Facility.

10 **Q. Does this conclude your testimony?**

11 A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that all persons on the docket service list have been served true and accurate copies of the foregoing **DIRECT TESTIMONY** by first class mail deposited in the U.S. mail, postage pre-paid, or by email transmission to all parties of record.

This the 2nd day of July, 2020.

/s/ Karen M. Kemerait
FOX ROTHSCHILD LLP
Karen Kemerait
434 Fayetteville Street, Suite 2800
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Attorneys for Apex Solar, LLC

Direct Testimony
of Richard Kirkland

Docket No. SP-11723, Sub 0

Exhibit 1



Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI
9408 Northfield Court
Raleigh, North Carolina 27603
Mobile (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

PROFESSIONAL EXPERIENCE

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
Hester & Company , Raleigh, N.C. Commercial appraiser	1996 – 2003

PROFESSIONAL AFFILIATIONS

MAI (Member, Appraisal Institute) designation #11796	2001
NC State Certified General Appraiser # A4359	1999
VA State Certified General Appraiser # 4001017291	
OR State Certified General Appraiser # C001204	
SC State Certified General Appraiser # 6209	

EDUCATION

Bachelor of Arts in English , University of North Carolina, Chapel Hill	1993
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CONTINUING EDUCATION

Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012
Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005

Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996

Direct Testimony
of Richard Kirkland

Docket No. SP-11723, Sub 0

Exhibit 2



Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI
9408 Northfield Court
Raleigh, North Carolina 27603
Phone (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

July 2, 2020

Mr. Rex Young
Cooperative Solar
5003 Southpark Drive, Ste 210
Durham, NC 27713

RE: Apex Solar Impact Study

Mr. Young:

At your request, I have considered the impact of a solar farm proposed to be constructed on approximately 357.44 acres out of a 474.52-acre tract located on Pony Barn Road, Lawndale, North Carolina. Specifically, I have been asked to give my professional opinion on whether the proposed solar farm will “substantially injure the value of adjoining or abutting property” and whether “the location and character of the use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located.”

To form an opinion on these issues, I have researched and visited existing and proposed solar farms in North Carolina, researched articles through the Appraisal Institute and other studies, and discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Cooperative Solar represented to me by Mr. Rex Young. My findings support the conditional use application. The effective date of this consultation is July 2, 2020.

I provided an earlier report on this project for Cypress Creek Renewables, LLC in 2018.

Conclusion

The matched pair analysis in the attached report shows no impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where there is sufficient setbacks and buffering as identified in the analysis. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by N.C. Courts or overturned by N.C. Courts when a board found otherwise (see, for example *Dellinger v. Lincoln County*). Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments. Industrial uses rarely absorb negative impacts from adjoining uses. This same pattern of development has been identified in this report showing that this is not a local phenomenon, but found in Virginia, North Carolina, Maryland, Tennessee, and Florida as representative of the Mid-Atlantic and Southeastern U.S.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting property and that the proposed use is in harmony with the area in which it is located. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar

farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is no traffic.

If you have any further questions please call me any time.

Sincerely,



Richard C. Kirkland, Jr., MAI
State Certified General Appraiser



Nicholas D. Kirkland
Licensed Residential Appraiser



Standards and Methodology

I conducted this analysis using the standards and practices established by the North Carolina Appraisal Board, the Appraisal Institute, and that conform to the Uniform Standards of Professional Appraisal Practice. The analyses and methodologies contained in this report are accepted by all major lending institutions, and they are used in North Carolina and across the country as the industry standard by certified appraisers conducting appraisals, market analyses, or impact studies and are considered adequate to form an opinion of the impact of a land use on neighboring properties. These standards and practices have also been accepted by the courts of North Carolina at the trial and appellate levels and by federal courts throughout the country as adequate to reach conclusions about the likely impact a use will have on adjoining or abutting properties.

The aforementioned standards compare property uses in the same market and generally within the same calendar year so that fluctuating markets do not alter study results. Although these standards do not require a linear study that examines adjoining property values before and after a new use (e.g. a solar farm) is developed, some of these studies do in fact employ this type of analysis. Comparative studies, as used in this report, are considered an industry standard.

Determining what is an External Obsolescence

An external obsolescence is a use of property that, because of its characteristics, might have a negative impact on the value of adjacent or nearby properties because of identifiable impacts. Determining whether a use would be considered an external obsolescence requires a study that isolates that use, eliminates any other causing factors, and then studies the sales of nearby versus distant comparable properties. The presence of one or a combination of key factors does not mean the use will be an external obsolescence, but a combination of these factors tend to be present when market data reflects that a use is an external obsolescence.

External obsolescence is evaluated by appraisers based on several factors. These factors include but are not limited to:

- 1) Traffic. Solar Farms are not traffic generators. The Institute of Transportation Engineers provides that one single family home, on average, generates 9.5 vehicle trips per day. A solar farm, on the other hand, generates the same or fewer trips per month.
- 2) Odor. Solar farms do not produce odor.
- 3) Noise. Solar farms have no noise concerns.
- 4) Environmental. Solar farms do not produce toxic or hazardous waste or contain hazardous materials or substances. NCDEQ does not consider the panels to be impervious surfaces that impede groundwater absorption or cause runoff.
- 5) Light. Solar farms are completely dark at night.
- 6) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbor from fully using their homes or farms or businesses for the use intended.

Proposed Use Description

The proposed solar farm is to be constructed on approximately 357.44 acres out of a 474.52-acre tract located on Pony Barn Road, Lawndale, North Carolina. Adjoining land is a mix of agricultural and low density residential, with a religious and commercial adjoining use as well. The solar farm will consist of panels lower to the ground than a typical residential dwelling. There will be grass growing underneath the panels to maintain very low impervious surface area. There will be a security fence around the project and landscaped buffers.

Adjoining Properties

I have considered adjoining uses and included a map to identify each parcel's location. The breakdown of those uses by acreage and number of parcels is summarized below.

Adjoining Use Breakdown		
	Acreage	Parcels
Residential	21.00%	68.75%
Agricultural	20.16%	14.58%
Agri/Res	58.25%	12.50%
Religious	0.42%	2.08%
Commercial	0.17%	2.08%
Total	100.00%	100.00%

The closest home will be 119 feet from the nearest solar panel with an average distance of 517 feet. Matched pairs show no impact at distances as close as 125 feet for single family housing.



Surrounding Uses

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
1	35567	Carpenter	127.31	Agri/Res	11.18%	2.08%	3185
2	35547	Bingham	7.11	Residential	0.62%	2.08%	N/A
3	35590	Brittain	4.09	Residential	0.36%	2.08%	350
4	55090	Brittain	1.56	Residential	0.14%	2.08%	150
5	62019	Brittain	1.20	Residential	0.11%	2.08%	220
6	44921	McKown	10.57	Residential	0.93%	2.08%	N/A
7	35616	Harrison	1.20	Residential	0.11%	2.08%	435
8	35592	Carroll	32.58	Agri/Res	2.86%	2.08%	1070
9	35603	Cooke	47.37	Agri/Res	4.16%	2.08%	1625
10	59085	Cooke	16.61	Agricultural	1.46%	2.08%	N/A
11	35604	McKee	40.66	Agricultural	3.57%	2.08%	N/A
12	35613	McKee	8.93	Residential	0.78%	2.08%	N/A
13	44457	Cross	14.15	Residential	1.24%	2.08%	345
14	61774	Leonhardt	5.92	Residential	0.52%	2.08%	N/A
15	61780	Nahalewski	6.25	Residential	0.55%	2.08%	155
16	62286	Cooke	49.35	Agricultural	4.34%	2.08%	N/A
17	35652	McDaniel	67.11	Agri/Res	5.90%	2.08%	630
18	44178	Grigg	8.84	Residential	0.78%	2.08%	N/A
19	54007	Leonhardt	15.32	Residential	1.35%	2.08%	430
20	35650	McKee	9.95	Residential	0.87%	2.08%	225
21	35698	Costner	347.48	Agri/Res	30.53%	2.08%	1550
22	35704	London	17.43	Residential	1.53%	2.08%	150
23	35702	Leonhardt	37.68	Agricultural	3.31%	2.08%	N/A
24	35646	Cook	41.19	Agri/Res	3.62%	2.08%	135
25	44609	Brittain	8.37	Residential	0.74%	2.08%	325
26	35624	Smith	4.92	Residential	0.43%	2.08%	445
27	35627	Charity	4.76	Religious	0.42%	2.08%	430
28	35628	Hartman	8.81	Residential	0.77%	2.08%	365
29	35633	Leonhardt	13.69	Residential	1.20%	2.08%	640
30	61551	Ingram	4.00	Residential	0.35%	2.08%	255
31	54983	Ingram	19.53	Agricultural	1.72%	2.08%	N/A
32	62488	Fox	6.57	Residential	0.58%	2.08%	N/A

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
33	49646	Givens	3.80	Residential	0.33%	2.08%	230
34	47028	Ewing	4.00	Residential	0.35%	2.08%	190
35	35640	Elliott	18.21	Residential	1.60%	2.08%	420
36	35647	Donaldson	17.48	Residential	1.54%	2.08%	195
37	46654	Jones	1.16	Residential	0.10%	2.08%	155
38	35667	Jones	0.60	Residential	0.05%	2.08%	119
39	35638	Cedar LLC	23.17	Agricultural	2.04%	2.08%	N/A
40	35637	Funk	10.34	Residential	0.91%	2.08%	N/A
41	61249	Cedar LLC	6.26	Residential	0.55%	2.08%	N/A
42	35589	Peeler	2.40	Residential	0.21%	2.08%	290
43	46730	Wright	3.87	Residential	0.34%	2.08%	N/A
44	46731	Allen	2.76	Residential	0.24%	2.08%	N/A
45	35588	Bittner	1.98	Commercial	0.17%	2.08%	N/A
46	60616	Elliott	1.13	Residential	0.10%	2.08%	275
47	35583	Conley	8.12	Residential	0.71%	2.08%	N/A
48	35568	Conley	42.50	Agricultural	3.73%	2.08%	N/A
Total			1138.272		100.00%	100.00%	517

I. Market Analysis of the Impact on Value from Solar Farms

I have researched hundreds of solar farms in numerous states to determine the impact of these facilities on the value of adjoining property. This research has primarily been in North Carolina, but I have also conducted market impact analyses in Virginia, South Carolina, Tennessee, Texas, Oregon, Mississippi, Maryland, New York, and Montana.

Wherever I have looked at solar farms, I have derived a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use similar to the breakdown that I've shown for the subject property on the previous page. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Harmony of Use section of this report.

While compiling that data, I have been looking for matched pairs for analysis. A matched pair analysis considers two similar or comparable properties that are distinguished only by proximity to the use that is being studied to determine whether or not that type of land use (here, a solar farm) has any impact on the abutting or adjoining property's value. Within the appraisal profession, matched pair analysis is a standard and widely-recognized method of measuring impact on value. In this case, I have considered residential properties abutting or adjoining a solar farm versus similar residential properties that do not adjoin a solar farm. I have also considered matched pairs of vacant residential and agricultural land. It is important to note that "similar" and "comparable" in the appraisal profession do not mean "identical." In each of the studies in this analysis I have prudently followed appraisal standards for determining similarity and for making appropriate adjustments for properties of differing age, size, and location.

I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar to the site in question, which is surrounded by low density residential and agricultural uses. In my more than 300 studies, I have found a striking repetition of that same typical adjoining use mix in over 90% of the solar farms I have looked at. Additional matched pair results in multiple states are strikingly similar, and all indicate that solar farms – which generate very little traffic, and do not generate noise, dust or have other harmful effects – do not negatively impact the value of adjoining or abutting properties.

1. Matched Pair – AM Best Solar Farm, Goldsboro, NC

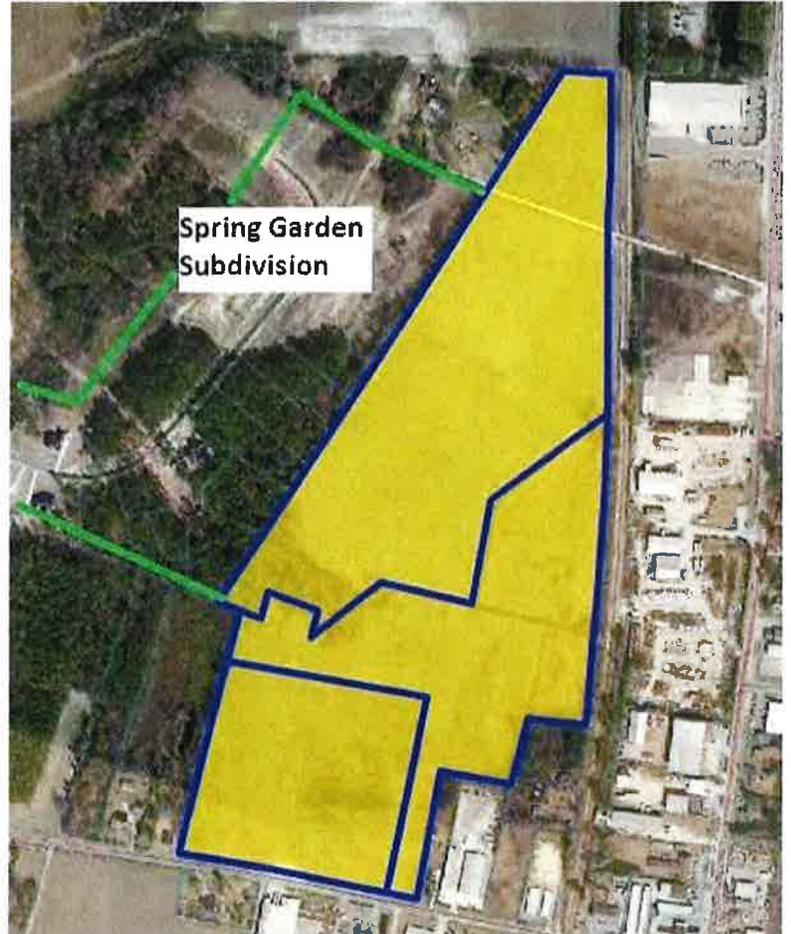
This solar farm adjoins Spring Garden Subdivision which had new homes and lots available for new construction during the approval and construction of the solar farm. The recent home sales have ranged from \$200,000 to \$250,000. This subdivision sold out the last homes in late 2014. The solar farm is clearly visible particularly along the north end of this street where there is only a thin line of trees separating the solar farm from the single-family homes.

Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder, the solar farm has been a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. There is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows multiple homes that have sold in 2013 and 2014 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales indicate that the solar farm has no impact on the adjoining residential use.

The homes that were marketed at Spring Garden are shown below.



Americana
SqFt: 3,194
Bed / Bath: 3 / 3.5

Price: \$237,900

[View Now »](#)



Washington
SqFt: 3,292
Bed / Bath: 4 / 3.5

Price: \$244,900

[View Now »](#)



Presidential
SqFt: 3,400
Bed / Bath: 5 / 3.5

Price: \$247,900

[View Now »](#)



Kennedy
SqFt: 3,494
Bed / Bath: 5 / 3

Price: \$249,900

[View Now »](#)



Virginia
SqFt: 3,449
Bed / Bath: 5 / 3

Price: \$259,900

[View Now »](#)

Adjoining Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600195570	Helm	0.76	Sep-13	\$250,000	2013	3,292	\$75.94	2 Story
3600195361	Leak	1.49	Sep-13	\$260,000	2013	3,652	\$71.19	2 Story
3600199891	McBrayer	2.24	Jul-14	\$250,000	2014	3,292	\$75.94	2 Story
3600198632	Foresman	1.13	Aug-14	\$253,000	2014	3,400	\$74.41	2 Story
3600196656	Hinson	0.75	Dec-13	\$255,000	2013	3,453	\$73.85	2 Story
	Average	1.27		\$253,600	2013.4	3,418	\$74.27	
	Median	1.13		\$253,000	2013	3,400	\$74.41	

Adjoining Sales After Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
0	Feddersen	1.56	Feb-13	\$247,000	2012	3,427	\$72.07	Ranch
0	Gentry	1.42	Apr-13	\$245,000	2013	3,400	\$72.06	2 Story
	Average	1.49		\$246,000	2012.5	3,414	\$72.07	
	Median	1.49		\$246,000	2012.5	3,414	\$72.07	

Adjoining Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600183905	Carter	1.57	Dec-12	\$240,000	2012	3,347	\$71.71	1.5 Story
3600193097	Kelly	1.61	Sep-12	\$198,000	2012	2,532	\$78.20	2 Story
3600194189	Hadwan	1.55	Nov-12	\$240,000	2012	3,433	\$69.91	1.5 Story
	Average	1.59		\$219,000	2012	2,940	\$74.95	
	Median	1.59		\$219,000	2012	2,940	\$74.95	

Nearby Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600193710	Barnes	1.12	Oct-13	\$248,000	2013	3,400	\$72.94	2 Story
3601105180	Nackley	0.95	Dec-13	\$253,000	2013	3,400	\$74.41	2 Story
3600192528	Mattheis	1.12	Oct-13	\$238,000	2013	3,194	\$74.51	2 Story
3600198928	Beckman	0.93	Mar-14	\$250,000	2014	3,292	\$75.94	2 Story
3600196965	Hough	0.81	Jun-14	\$224,000	2014	2,434	\$92.03	2 Story
3600193914	Preskitt	0.67	Jun-14	\$242,000	2014	2,825	\$85.66	2 Story
3600194813	Bordner	0.91	Apr-14	\$258,000	2014	3,511	\$73.48	2 Story
3601104147	Shaffer	0.73	Apr-14	\$255,000	2014	3,453	\$73.85	2 Story
	Average	0.91		\$246,000	2013.625	3,189	\$77.85	
	Median	0.92		\$249,000	2014	3,346	\$74.46	

Nearby Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Style
3600191437	Thomas	1.12	Sep-12	\$225,000	2012	3,276	\$68.68	2 Story
3600087968	Lilley	1.15	Jan-13	\$238,000	2012	3,421	\$69.57	1.5 Story
3600087654	Burke	1.26	Sep-12	\$240,000	2012	3,543	\$67.74	2 Story
3600088796	Hobbs	0.73	Sep-12	\$228,000	2012	3,254	\$70.07	2 Story
	Average	1.07		\$232,750	2012	3,374	\$69.01	
	Median	1.14		\$233,000	2012	3,349	\$69.13	

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$253,600	\$253,000	\$246,000	\$249,000
Year Built	2013	2013	2014	2014
Size	3,418	3,400	3,189	3,346
Price/SF	\$74.27	\$74.41	\$77.85	\$74.46

Percentage Differences

Median Price	-2%
Median Size	-2%
Median Price/SF	0%

The data shown above was compiled in 2014 and showed that initial purchase prices for homes adjoining the solar farm were not impacted by the solar farm.

The Median Price is the best indicator to follow in any analysis as it avoids outlying samples that would otherwise skew the results. The median sizes and median prices are all consistent throughout the sales both before and after the solar farm whether you look at sites adjoining or nearby to the solar farm. The average for the homes nearby the solar farm shows a smaller building size and a higher price per square foot. This reflects a common occurrence in real estate where the price per square foot goes up as the size goes down. This is similar to the discount you see in any market where there is a discount for buying larger volumes. So when you buy a 2 liter coke you pay less per ounce than if you buy a 16 oz. coke. So even comparing averages the indication is for no impact, but I rely on the median rates as the most reliable indication for any such analysis.

I have also considered four more recent resales of homes in this community as shown on the following page. These comparable sales adjoin the solar farm at distances ranging from 315 to 400 feet. The matched pairs show a range from -9% to +6%. The range of the average difference is -2% to +1% with an average of 0% and a median of +0.5%. These comparable sales support a finding of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	103 Granville Pl	1.42	7/27/2018	\$265,000	2013	3,292	\$80.50	4/3.5	2-Car	2-Story		385
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	103 Granville Pl								\$265,000		-2%	
	Not	2219 Granville	\$4,382		\$1,300	\$0				\$265,682	0%		
	Not	634 Friendly	-\$8,303		-\$6,675	\$16,721	-\$10,000			\$258,744	2%		
	Not	2403 Granville	-\$6,029		-\$1,325	\$31,356				\$289,001	-9%		

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	104 Erin	2.24	6/19/2017	\$280,000	2014	3,549	\$78.90	5/3.5	2-Car	2-Story		315
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	104 Erin								\$280,000		0%	
	Not	2219 Granville	-\$4,448		\$2,600	\$16,238				\$274,390	2%		
	Not	634 Friendly	-\$17,370		-\$5,340	\$34,702	-\$10,000			\$268,992	4%		
	Not	2403 Granville	-\$15,029		\$0	\$48,285				\$298,256	-7%		

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2312 Granville	0.75	5/1/2018	\$284,900	2013	3,453	\$82.51	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	2312 Granville								\$284,900		1%	
	Not	2219 Granville	\$2,476		\$1,300	\$10,173				\$273,948	4%		
	Not	634 Friendly	-\$10,260		-\$6,675	\$27,986	-\$10,000			\$268,051	6%		
	Not	2403 Granville	-\$7,972		-\$1,325	\$47,956				\$303,659	-7%		

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2310 Granville	0.76	5/14/2019	\$280,000	2013	3,292	\$85.05	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	\$260,000	2012	3,292	\$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	\$267,000	2018	3,053	\$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	\$265,000	2014	2,816	\$94.11	5/3.5	2-Car	2-Story		
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	2310 Granville								\$280,000		1%	
	Not	2219 Granville	\$10,758		\$1,300	\$0				\$272,058	3%		
	Not	634 Friendly	-\$1,755		-\$6,675	\$16,721	-\$10,000			\$265,291	5%		
	Not	2403 Granville	\$469		-\$1,325	\$31,356				\$295,500	-6%		

I have also considered the original sales prices in this subdivision relative to the recent resale values as shown in the chart below. This rate of appreciation is right at 2.5% over the last 6 years. Zillow indicates that the average home value within the 27530 zip code as of January 2014 was \$101,300 and as of January 2020 that average is \$118,100. This indicates an average increase in the market of 2.37%. I conclude that the appreciation of the homes adjoining the solar farm are not impacted by the presence of the solar farm based on this data.

Address	Initial Sale		Second Sale		Year Diff	Apprec.	%	Apprec.	%/Year
	Date	Price	Date	Price					
1 103 Granville Pl	4/1/2013	\$245,000	7/27/2018	\$265,000	5.32	\$20,000	8.16%	1.53%	
2 105 Erin	7/1/2014	\$250,000	6/19/2017	\$280,000	2.97	\$30,000	12.00%	4.04%	
3 2312 Granville	12/1/2013	\$255,000	5/1/2015	\$262,000	1.41	\$7,000	2.75%	1.94%	
4 2312 Granville	5/1/2015	\$262,000	5/1/2018	\$284,900	3.00	\$22,900	8.74%	2.91%	
5 2310 Granville	8/1/2013	\$250,000	5/14/2019	\$280,000	5.79	\$30,000	12.00%	2.07%	
6 2308 Granville	9/1/2013	\$260,000	11/12/2015	\$267,500	2.20	\$7,500	2.88%	1.31%	
7 2304 Granville	9/1/2012	\$198,000	6/1/2017	\$225,000	4.75	\$27,000	13.64%	2.87%	
8 102 Erin	8/1/2014	\$253,000	11/1/2016	\$270,000	2.25	\$17,000	6.72%	2.98%	
							Average	2.46%	
							Median	2.47%	

2. Matched Pair – White Cross Solar Farm, Chapel Hill, NC



A new solar farm was built at 2159 White Cross Road in Chapel Hill, Orange County in 2013. After construction, the owner of the underlying land sold the balance of the tract not encumbered by the solar farm in July 2013 for \$265,000 for 47.20 acres, or \$5,606 per acre. This land adjoins the solar farm to the south and was clear cut of timber around 10 years ago. I compared this purchase to a nearby transfer of 59.09 acres of timber land just south along White Cross Road that sold in November 2010 for \$361,000, or \$6,109 per acre. After purchase, this land was divided into three mini farm tracts of 12 to 20 acres each. These rates are very similar and the difference in price per acre is attributed to the timber value and not any impact of the solar farm.

Type	TAX ID	Owner	Acres	Date	Price	\$/Acre	Notes	Conf By
Adjoins Solar	9748336770	Haggerty	47.20	Jul-13	\$265,000	\$5,614	Clear cut	Betty Cross, broker
Not Near Solar	9747184527	Purcell	59.09	Nov-10	\$361,000	\$6,109	Wooded	Dickie Andrews, broker

The difference in price is attributed to the trees on the older sale.

No impact noted for the adjacency to a solar farm according to the broker.

I looked at a number of other nearby land sales without proximity to a solar farm for this matched pair, but this land sale required the least allowance for differences in size, utility and location.

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$5,614	\$5,614	\$6,109	\$6,109
Adjustment for Timber	\$500	\$500		
Adjusted	\$6,114	\$6,114	\$6,109	\$6,109
Tract Size	47.20	47.20	59.09	59.09
Percentage Differences				
Median Price Per Acre	0%			

This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

3. Matched Pair – Wagstaff Farm, Roxboro, NC



This solar farm is located at the northeast corner of a 594-acre farm with approximately 30 acres of solar farm area. This solar farm was approved and constructed in 2013.

After approval, 18.82 acres were sold out of the parent tract to an adjoining owner to the south. This sale was at a similar price to nearby land to the east that sold in the same time from for the same price per acre as shown below.

Type	TAX ID	Owner	Acres	Present Use	Date Sold	Price	\$/AC
Adjoins Solar	0918-17-11-7960	Piedmont	18.82	Agricultural	8/19/2013	\$164,000	\$8,714
Not Near Solar	0918-00-75-9812 et al	Blackwell	14.88	Agricultural	12/27/2013	\$130,000	\$8,739

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$8,714	\$8,714	\$8,739	\$8,739
Tract Size	18.82	18.82	14.88	14.88

Percentage Differences

Median Price Per Acre	0%
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This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

4. Matched Pair – Neal Hawkins Solar, Gastonia, NC



This project is located on the south side of Neal Hawkins Road just outside of Gastonia. The property identified above as Parcel 4 was listed for sale while this solar farm project was going through the approval process. The property was put under contract during the permitting process with the permit being approved while the due diligence period was still ongoing. After the permit was approved the property closed with no concerns from the buyer. I spoke with Jennifer Bouvier, the broker listing the property and she indicated that the solar farm had no impact at all on the sales price. She considered some nearby sales to set the price and the closing price was very similar to the asking price within the typical range for the market. The buyer was aware that the solar farm was coming and they had no concerns.

This two-story brick dwelling was sold on March 20, 2017 for \$270,000 for a 3,437 square foot dwelling built in 1934 in average condition on 1.42 acres. The property has four bedrooms and two bathrooms.

5. Matched Pair – Summit Solar, Moyock, NC



This project is located at 1374 Caritoke Highway, Moyock, NC. This is an 80 MW facility on a parent tract of 2,034 acres. Parcels Number 48 and 53 as shown in the map above were sold in 2016. The project was under construction during the time period of the first of the matched pair sales and the permit was approved well prior to that in 2015.

I looked at multiple sales of adjoining and nearby homes and compared each to multiple comparables to show a range of impacts from -10% up to +11% with an average of +2% and a median of +3%. These ranges are well within typical real estate variation and supports an indication of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
48	Adjoins	129 Pinto	4.29	4/15/2016	\$170,000	1985	1,559	\$109.04	3/2	Drive	MFG		1,060
	Not	102 Timber	1.30	4/1/2016	\$175,500	2009	1,352	\$129.81	3/2	Drive	MFG		
	Not	120 Ranchland	0.99	10/1/2014	\$170,000	2002	1,501	\$113.26	3/2	Drive	MFG		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	129 Pinto								\$170,000		-3%
Not	102 Timber	\$276	\$10,000	-\$29,484	\$18,809				\$175,101	-3%	
Not	120 Ranchland	\$10,735	\$10,000	-\$20,230	\$4,598				\$175,103	-3%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
53	Adjoins	105 Pinto	4.99	12/16/2016	\$206,000	1978	1,484	\$138.81	3/2	Det Gar	Ranch		2,020
	Not	111 Spur	1.15	2/1/2016	\$193,000	1985	2,013	\$95.88	4/2	Gar	Ranch		
	Not	103 Marshall	1.07	3/29/2017	\$196,000	2003	1,620	\$120.99	3/2	Drive	Ranch		
	Not	127 Ranchland	0.99	6/9/2015	\$219,900	1988	1,910	\$115.13	3/2	Gar/3Gar	Ranch		
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	105 Pinto								\$206,000		11%	
	Not	111 Spur	\$6,918	\$10,000	-\$6,755	-\$25,359				\$177,803	14%		
	Not	103 Marshall	-\$2,268	\$10,000	-\$24,500	-\$8,227		\$5,000		\$176,005	15%		
	Not	127 Ranchland	\$13,738	\$10,000	-\$10,995	-\$24,523		-\$10,000		\$198,120	4%		

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
15	Adjoins	318 Green View	0.44	9/15/2019	\$357,000	2005	3,460	\$103.18	4/4	2-Car	1.5 Brick		570
	Not	195 St Andrews	0.55	6/17/2018	\$314,000	2002	3,561	\$88.18	5/3	2-Car	2.0 Brick		
	Not	336 Green View	0.64	1/13/2019	\$365,000	2006	3,790	\$96.31	6/4	3-Car	2.0 Brick		
	Not	275 Green View	0.36	8/15/2019	\$312,000	2003	3,100	\$100.65	5/3	2-Car	2.0 Brick		
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	318 Green View								\$357,000		4%	
	Not	195 St Andrews	\$12,040		\$4,710	-\$7,125	\$10,000			\$333,625	7%		
	Not	336 Green View	\$7,536		-\$1,825	-\$25,425			-\$5,000	\$340,286	5%		
	Not	275 Green View	\$815		\$3,120	\$28,986	\$10,000			\$354,921	1%		

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
29	Adjoins	164 Ranchland	1.01	4/30/2019	\$169,000	1999	2,052	\$82.36	4/2	Gar	MFG		440
	Not	150 Pinto	0.94	3/27/2018	\$168,000	2017	1,920	\$87.50	4/2	Drive	MFG		
	Not	105 Longhorn	1.90	10/10/2017	\$184,500	2002	1,944	\$94.91	3/2	Drive	MFG		
	Not	112 Pinto	1.00	7/27/2018	\$180,000	2002	1,836	\$98.04	3/2	Drive	MFG	Fenced	
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	164 Ranchland								\$169,000		-10%	
	Not	150 Pinto	\$5,649		-\$21,168	\$8,085			\$5,000	\$165,566	2%		
	Not	105 Longhorn	\$8,816	-\$10,000	-\$3,875	\$7,175			\$5,000	\$191,616	-13%		
	Not	112 Pinto	\$4,202		-\$3,780	\$14,824			\$5,000	\$200,245	-18%		

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	358 Oxford	10.03	9/16/2019	\$478,000	2008	2,726	\$175.35	3/3	2 Gar	Ranch		635
	Not	276 Summit	10.01	12/20/2017	\$355,000	2006	1,985	\$178.84	3/2	2 Gar	Ranch		
	Not	176 Providence	6.19	5/6/2019	\$425,000	1990	2,549	\$166.73	3/3	4 Gar	Ranch	Brick	
	Not	1601 B Caratoke	12.20	9/26/2019	\$440,000	2016	3,100	\$141.94	4/3.5	5 Gar	Ranch	Pool	
												Avg	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	
	Adjoins	358 Oxford								\$478,000		5%	
	Not	276 Summit	\$18,996		\$3,550	\$106,017	\$10,000			\$493,564	-3%		
	Not	176 Providence	\$4,763		\$38,250	\$23,609		-\$10,000	-\$25,000	\$456,623	4%		
	Not	1601 B Caratoke	-\$371	\$50,000	-\$17,600	-\$42,467	-\$5,000	-\$10,000		\$414,562	13%		

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
	Nearby	343 Oxford	10.01	3/9/2017	\$490,000	2016	3,753	\$130.56	3/3	2 Gar	1.5 Story	Pool	970
	Not	287 Oxford	10.01	9/4/2017	\$600,000	2013	4,341	\$138.22	5/4.5	8-Gar	1.5 Story	Pool	
	Not	301 Oxford	10.00	4/23/2018	\$434,000	2013	3,393	\$127.91	5/3	2 Gar	1.5 Story		
	Not	218 Oxford	10.01	4/4/2017	\$525,000	2006	4,215	\$124.56	4/3	4 Gar	1.5 Story	VG Barn	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	343 Oxford								\$490,000		3%
Not	287 Oxford	-\$9,051		\$9,000	-\$65,017	-\$15,000	-\$25,000		\$494,932	-1%	
Not	301 Oxford	-\$14,995	-\$10,000	\$6,510	\$36,838				\$452,353	8%	
Not	218 Oxford	-\$1,150		\$26,250	-\$46,036		-\$10,000	-\$10,000	\$484,064	1%	

6. Matched Pair – White Cross II, Chapel Hill, NC



This project is located in rural Orange County on White Cross Road with a 2.8 MW facility. This project is a few parcels south of White Cross Solar Farm that was developed by a different company. An adjoining home sold after construction as presented below.

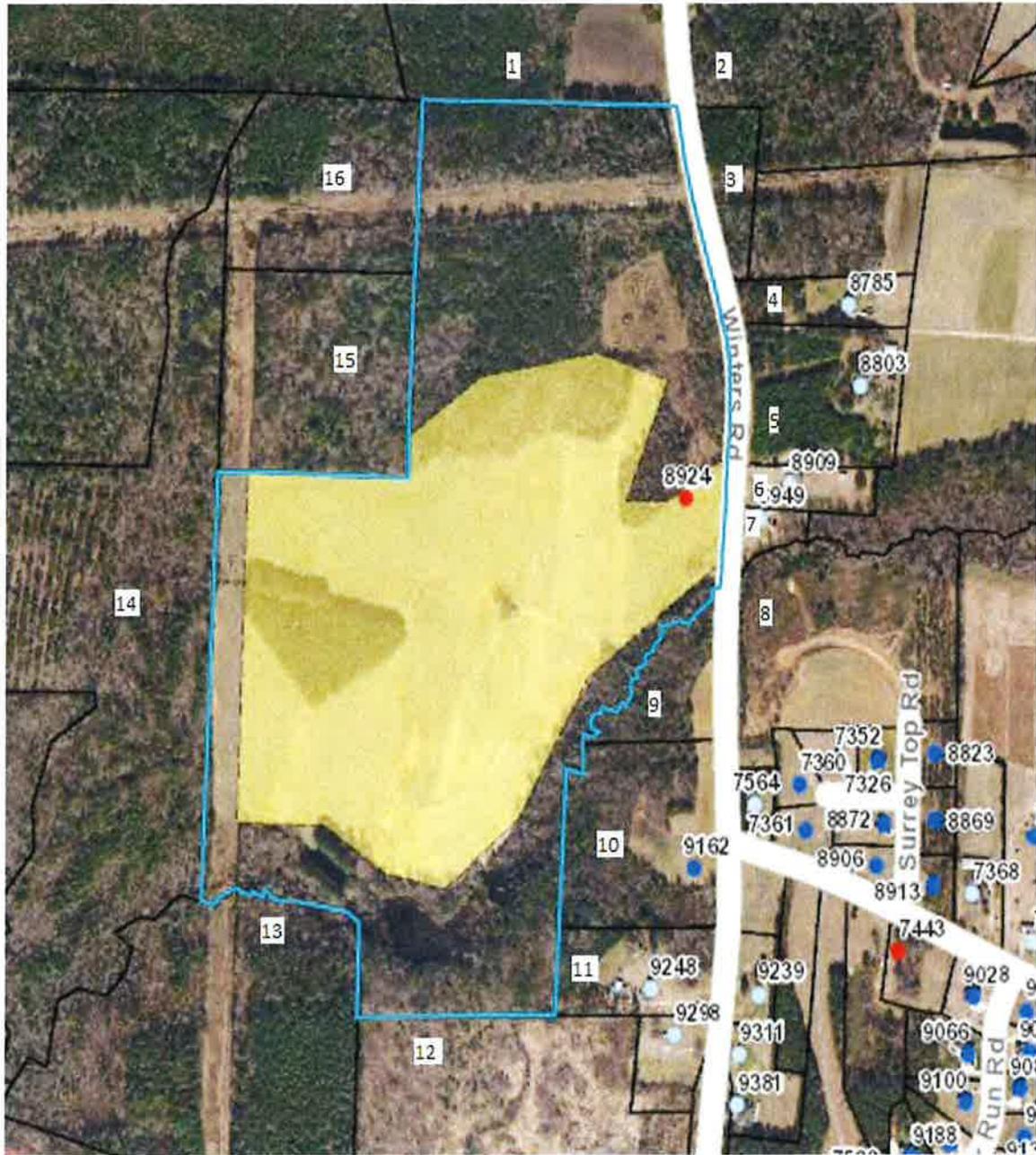
Adjoining Residential Sales After Solar Farm Completed

Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	97482114578	11.78	2/29/2016	\$340,000	1994	1,601	\$212.37	3/3	Garage	Ranch
Not	4200B Old Greensbor	12.64	12/28/2015	\$380,000	2000	2,075	\$183.13	3/2.5	Garage	Ranch

Adjoining Residential Sales After Solar Farm Adjoining Sales Adjusted

Solar	TAX ID/Address	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Total	% Diff
Adjoins	97482114578	\$340,000							\$340,000	
Not	4200B Old Greensbor	\$380,000	\$3,800	\$0	-\$15,960	-\$43,402	\$5,000	\$0	\$329,438	3%

7. Matched Pair – Tracy Solar, Bailey, NC



This project is located in rural Nash County on Winters Road with a 5 MW facility that was built in 2016. A local builder acquired parcels 9 and 10 following construction as shown below at rates comparable to other tracts in the area. They then built a custom home for an owner and sold that at a price similar to other nearby homes as shown in the matched pair data below.

Adjoining Land Sales After Solar Farm Completed

# Solar Farm	TAX ID	Grantor	Grantee	Address	Acres	Date Sold	Sales Price	\$/AC	Other
9 & 10	316003 & 316004	Cozart	Kingsmill	9162 Winters	13.22	7/21/2016	\$70,000	\$5,295	
Not	6056	Billingsly		427 Young	41	10/21/2016	\$164,000	\$4,000	
Not	33211	Fulcher	Weikel	10533 Cone	23.46	7/18/2017	\$137,000	\$5,840	Doublewide, structures
Not	106807	Perry	Gardner	Claude Lewis	11.22	8/10/2017	\$79,000	\$7,041	Gravel drive for sub, cleared
Not	3437	Vaughan	N/A	11354 Old Lewis Sch	18.73	Listing	\$79,900	\$4,266	Small cemetery, wooded

Adjoining Sales Adjusted

Time	Acres	Location	Other	Adj \$/Ac	% Diff
				\$5,295	
\$0	\$400	\$0	\$0	\$4,400	17%
-\$292	\$292	\$0	-\$500	\$5,340	-1%
-\$352	\$0	\$0	-\$1,000	\$5,689	-7%
-\$213	\$0	\$0	\$213	\$4,266	19%
Average					7%

Adjoining Residential Sales After Solar Farm Completed

#	Solar Farm	n	Address	Acres	Date Sold	Sales Price	Built	GLA	\$/GLA	BR/BA	Style	Other
9 & 10	Adjoins	ix	9162 Winters	13.22	1/5/2017	\$255,000	2016	1,616	\$157.80	3/2	Ranch	1296 sf wrkshp
	Not	iv	7352 Red Fox	0.93	6/30/2016	\$176,000	2010	1,529	\$115.11	3/2	2-story	

Adjoining Sales Adjusted

Time	Acres	YB	GLA	Style	Other	Total	% Diff
						\$255,000	
\$0	\$44,000	\$7,392	\$5,007	\$5,000	\$15,000	\$252,399	1%

The comparables for the land show either a significant positive relationship or a mild negative relationship to having and adjoining solar farm, but when averaged together they show no negative impact. The wide divergence is due to the difficulty in comping out this tract of land and the wide variety of comparables used. The two comparables that show mild negative influences include a property that was partly developed as a residential subdivision and the other included a doublewide with some value and accessory agricultural structures. The tax assessed value on the improvements were valued at \$60,000. So both of those comparables have some limitations for comparison. The two that show significant enhancement due to adjacency includes a property with a cemetery located in the middle and the other is a tract almost twice as large. Still that larger tract after adjustment provides the best matched pair as it required the least adjustment. I therefore conclude that there is no negative impact due to adjacency to the solar farm shown by this matched pair.

The dwelling that was built on the site was a build-to-suit and was compared to a nearby homesale of a property on a smaller parcel of land. I adjusted for that differenced based on a \$25,000 value for a 1-acre home site versus the \$70,000 purchase price of the larger subject tract. The other adjustments are typical and show no impact due to the adjacency to the solar farm.

The closest solar panel to the home is 780 feet away.

I note that the representative for Kingsmill Homes indicated that the solar farm was never a concern in purchasing the land or selling the home. He also indicated that they had built a number of nearby homes across the street and it had never come up as an issue.

8. Matched Pair – McBride Place Solar Farm, Midland, NC



This project is located on Mount Pleasant Road, Midland, North Carolina. The property is on 627 acres on an assemblage of 974.59 acres. The solar farm was approved in early 2017 for a 74.9 MW facility.

I have considered the sale of 4380 Joyner Road which adjoins the proposed solar farm near the northwest section. This property was appraised in April of 2017 for a value of \$317,000 with no consideration of any impact due to the solar farm in that figure. The property sold in November 2018 for \$325,000 with the buyer fully aware of the proposed solar farm.

I have considered the following matched pairs to the subject property.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	4380 Joyner	12.00	11/22/2017	\$325,000	1979	1,598	\$203.38	3/2	2xGar	Ranch	Outbldg
Not	3870 Elkwood	5.50	8/24/2016	\$250,000	1986	1,551	\$161.19	3/2.5	Det 2xGar	Craft	
Not	8121 Lower Rocky	18.00	2/8/2017	\$355,000	1977	1,274	\$278.65	2/2	2xCarp	Ranch	Eq. Fac.
Not	13531 Cabarrus	7.89	5/20/2016	\$267,750	1981	2,300	\$116.41	3/2	2xGar	Ranch	

Adjoining Sales Adjusted

Time	Acres	YB	Condition	GLA	BR/BA	Park	Other	Total	% Diff
								\$325,000	
\$7,500	\$52,000	-\$12,250	\$10,000	\$2,273	-\$2,000	\$2,500	\$7,500	\$317,523	2%
\$7,100	-\$48,000	\$4,970		\$23,156	\$0	\$3,000	-\$15,000	\$330,226	-2%
\$8,033	\$33,000	-\$3,749	\$20,000	-\$35,832	\$0	\$0	\$7,500	\$296,702	9%
								Average	3%

After adjusting the comparables, I found that the average adjusted value shows a slight increase in value for the subject property adjoining a solar farm. As in the other cases, this is a mild positive and within the typical range of real estate transactions. I therefore conclude that these matched pairs show no impact on value.

I note that the home at 4380 Joyner Road is 275 feet from the closest proposed solar panel.

I also considered the recent sale of a lot on Kristi Lane that is on the east side of the proposed solar farm. This 4.22-acre lot sold in December 2017 for \$94,000. I spoke with the broker, Margaret Dabbs, who indicated that the solar farm was considered a positive by both buyer and seller as it insures no subdivision will be happening in that area. Buyers in this market are looking for privacy and seclusion. The other lots on Kristi Lane are likely to sale soon at similar prices. Ms. Dabbs indicated that they have had these lots on the market for about 5 years at asking prices that were probably a little high and they are now selling and they have another under contract.

9. Matched Pair – Beetle-Shelby Solar, Cleveland County, NC



This project is located on Bachelor Road at Timber Drive, Mooresboro, NC. This is a 4 MW facility on a parent tract of 24 acres.

I have considered a custom home on a nearby property adjoining this solar farm. This home is located on 10.08 acres, was built in 2013, and has a gross living area of 3,196 s.f. This property sold on October 1, 2018 \$416,000. I compared this to several nearby homes of similar size on large lots as shown below.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	1715 Timber	10.08	10/1/2018	\$416,000	2013	3,196	\$130.16	4/3.5	2xGar	1.5 story	Pool, Scrn Prch
Not	1021 Posting	2.45	2/15/2019	\$414,000	2000	4,937	\$83.86	4/4.5	2xGar	1.5 story	Scrn Prch
Not	2521 Wood	3.25	7/30/2017	\$350,000	2003	3,607	\$97.03	4/4	4xGar	1.5 story	Pool, sunroom
Not	356 Whitaker	7.28	1/9/2017	\$340,000	1997	3,216	\$105.72	4/4	2xGar	Ranch	Pole barn

Adjoining Sales Adjusted

Time	Acres	YB	GLA	BR/BA	Park	Other	Total	% Diff
							\$416,000	
	\$15,000	\$37,674	-\$58,398	-\$10,000			\$398,276	4%
\$10,500	\$12,000	\$24,500	-\$15,952	-\$5,000	-\$5,000		\$371,048	11%
\$15,300	\$5,000	\$38,080	-\$846	-\$5,000			\$392,534	6%
							Average	7%

The data on these sales all show that the subject property adjoining the solar farm sold for more than these other comparable sales. These sales suggest a mild increase in value due to proximity to the solar farm; however, the subject property is a custom home with upgrades that would balance out that difference. I therefore conclude that these matched pairs support an indication of no impact on property value.

10. Matched Pair – Courthouse Solar, Gaston County, NC



This project is a 5 MW facility located on 161.92 acres on Tryon Courthouse Road near Bessemer City that was approved in late 2016 but has not yet been constructed due to delays in the power purchase agreement process with Duke Progress Energy.

I have considered a recent sale of a home (Parcel 13) located across from this approved solar farm project as well as an adjoining lot sale (Parcel 25) to the west of this approved project.

I compared the home sale to similar sized homes with similar exposure to county roads as shown below. I considered three similar sales that once adjusted for differences show a positive relationship due to proximity to the solar farm. The positive impact is less than 5% which is a standard deviation for real estate transaction and indicates no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000	2001	1,272	\$87.26	3/2	Drive	Ranch
Not	214 Kiser	1.14	1/5/2017	\$94,000	1987	1,344	\$69.94	3/2	Drive	Ranch
Not	101 Windward	0.30	3/30/2017	\$104,000	1995	1,139	\$91.31	3/2	Drive	Ranch
Not	5550 Lennox	1.44	10/12/2018	\$115,000	2002	1,224	\$93.95	3/2	Drive	Ranch

Adjoining Residential Sales After Solar Farm Approved

Adjoining Sales Adjusted

Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	Total	% Diff
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000					\$111,000	
Not	214 Kiser	1.14	1/5/2017	\$94,000	\$533		\$9,212	-\$1,511	\$102,234	8%
Not	101 Windward	0.30	3/30/2017	\$104,000	-\$128		\$4,368	\$5,615	\$113,855	-3%
Not	5550 Lennox	1.44	10/12/2018	\$115,000	-\$5,444		-\$805	-\$2,396	\$106,355	4%

Average 3%

Similarly, I compared the lot sale to four nearby land sales. Parcel 25 could not be subdivided and was a single estate lot. There were a number of nearby lot sales along Weaver Dairy that sold for \$43,000 to \$30,000 per lot for 4-acre home lots. Estate lots typically sell at a base homesite rate that would be

represented by those prices plus a diminishing additional value per additional acre. The consideration of the larger tract more accurately illustrates the value per acre for larger tracts. After adjustments, the land sales show a mild positive impact on land value with an average increase of 9%, which supports a positive impact.

Adjoining Residential Land Sales After Solar Farm Approved						Adjoining Sales Adjusted				
Solar	Address	Acres	Date Sold	Sales Price	\$/Ac	Time	Acres	Total	% Diff	Note
Adjoins	5021 Buckland	9.66	3/21/2018	\$58,500	\$6,056			\$58,500		1 homesite only
Not	Campbell	6.75	10/31/2018	\$42,000	\$6,222	-\$773	\$18,107	\$59,333	-1%	
Not	Kiser	17.65	11/27/2017	\$69,000	\$3,909	\$647	-\$19,508	\$50,139	14%	6 acres less usable due to shape (50%)
Not	522 Weaver Dairy	3.93	2/26/2018	\$30,000	\$7,634	\$57	\$25,000	\$55,057	6%	
Not	779 Sunnyside	6.99	3/6/2017	\$34,000	\$4,864	\$1,062	\$12,987	\$48,049	18%	
Average									9%	

11. Matched Pair – Mariposa Solar, Gaston County, NC



This project is a 5 MW facility located on 35.80 acres out of a parent tract of 87.61 acres at 517 Blacksake Road, Stanley that was built in 2016.

I have considered a number of recent sales around this facility as shown below.

The first is identified in the map above as Parcel 1, which is 215 Mariposa Road. This is an older dwelling on large acreage with only one bathroom. I've compared it to similar nearby homes as shown below.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	215 Mariposa	17.74	12/12/2017	\$249,000	1958	1,551	\$160.54	3/1	Garage	Br/Rnch
Not	249 Mariposa	0.48	3/1/2019	\$153,000	1974	1,792	\$85.38	4/2	Garage	Br/Rnch
Not	110 Airport	0.83	5/10/2016	\$166,000	1962	2,165	\$76.67	3/2	Crprt	Br/Rnch
Not	1249 Blacksake	5.01	9/20/2018	\$242,500	1980	2,156	\$112.48	3/2	Drive	1.5
Not	1201 Abernathy	27.00	5/3/2018	\$390,000	1970	2,190	\$178.08	3/2	Crprt	Br/Rnch

Adjoining Residential Sales After Solar Farm Approved				Adjoining Sales Adjusted									
Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	215 Mariposa	17.74	12/12/2017	\$249,000								\$249,000	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	-\$5,583	-\$17,136	\$129,450	-\$20,576	-\$10,000			\$229,154	8%
Not	110 Airport	0.83	5/10/2016	\$166,000	\$7,927	-\$4,648	\$126,825	-\$47,078	-\$10,000			\$239,026	4%
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	-\$5,621	-\$37,345	\$95,475	-\$68,048	-\$10,000	\$5,000		\$221,961	11%
Not	1201 Abernathy	27.00	5/3/2018	\$390,000	-\$4,552	-\$32,760	-\$69,450	-\$60,705	-\$10,000			\$212,533	15%
												Average	9%

The average difference after adjusting for all factors is +9% on average, which suggests an enhancement due to the solar farm across the street. Given the large adjustments for acreage and size, I will focus on the low end of the adjusted range at 4%, which is within the typical deviation and therefore suggests no impact on value.

I have also considered Parcel 4 that sold after the solar farm was approved but before it had been constructed in 2016.

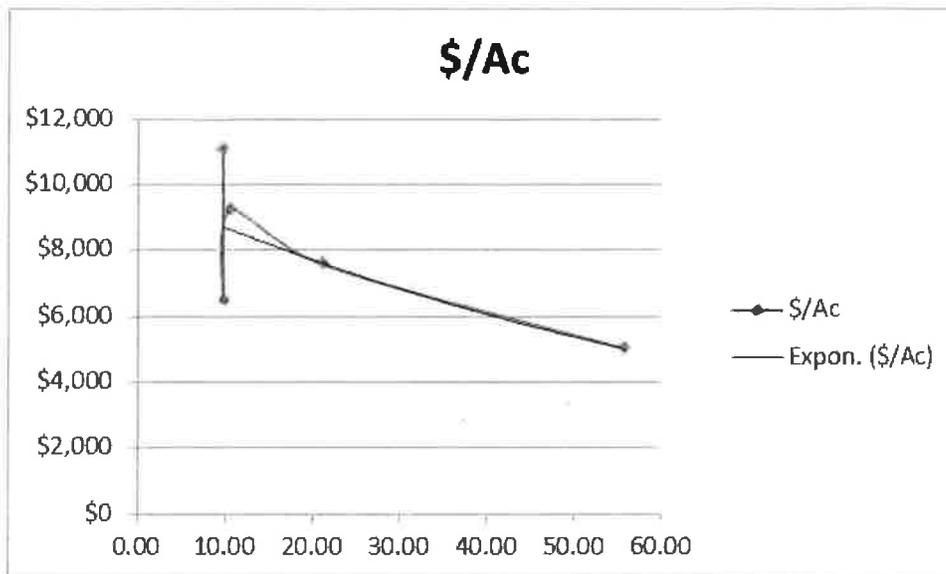
Adjoining Residential Sales After Solar Farm Approved												
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	
Adjoins	242 Mariposa	2.91	9/21/2015	\$180,000	1962	1,880	\$95.74	3/2	Carport	Br/Rnch	Det Wrkshop	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	1974	1,792	\$85.38	4/2	Garage	Br/Rnch		
Not	110 Airport	0.83	5/10/2016	\$166,000	1962	2,165	\$76.67	3/2	Crprt	Br/Rnch		
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	1980	2,156	\$112.48	3/2	Drive	1.5		

Adjoining Residential Sales After Solar Farm Approved				Adjoining Sales Adjusted									
Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	242 Mariposa	2.91	9/21/2015	\$180,000								\$180,000	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	-\$15,807	-\$12,852	\$18,468	\$7,513		-\$3,000	\$25,000	\$172,322	4%
Not	110 Airport	0.83	5/10/2016	\$166,000	-\$3,165	\$0	\$15,808	-\$28,600			\$25,000	\$175,043	3%
Not	1249 Blacksnake	5.01	9/20/2018	\$242,500	-\$21,825	-\$30,555	-\$15,960	-\$40,942		\$2,000	\$25,000	\$160,218	11%
												Average	6%

The average difference after adjusting for all factors is +6%, which is again suggests a mild increase in value due to the adjoining solar farm use. The median is a 4% adjustment, which is within a standard deviation and suggests no impact on property value.

I have also considered the recent sale of Parcel 13 that is located on Blacksnake Road south of the project. I was unable to find good land sales in the same 20 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 20 acres. As can be seen in the chart below, this lines up exactly with the purchase of the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm.

Adjoining Residential Land Sales After Solar Farm Approved						Adjoining Sales Adjusted		
Solar	Tax/Street	Acres	Date Sold	Sales Price	\$/Ac	Time	\$/Ac	
Adjoins	174339/Blacksnake	21.15	6/29/2018	\$160,000	\$7,565		\$7,565	
Not	227852/Abernathy	10.57	5/9/2018	\$97,000	\$9,177	\$38	\$9,215	
Not	17443/Legion	9.87	9/7/2018	\$64,000	\$6,484	-\$37	\$6,447	
Not	164243/Alexis	9.75	2/1/2019	\$110,000	\$11,282	-\$201	\$11,081	
Not	176884/Bowden	55.77	6/13/2018	\$280,000	\$5,021	\$7	\$5,027	

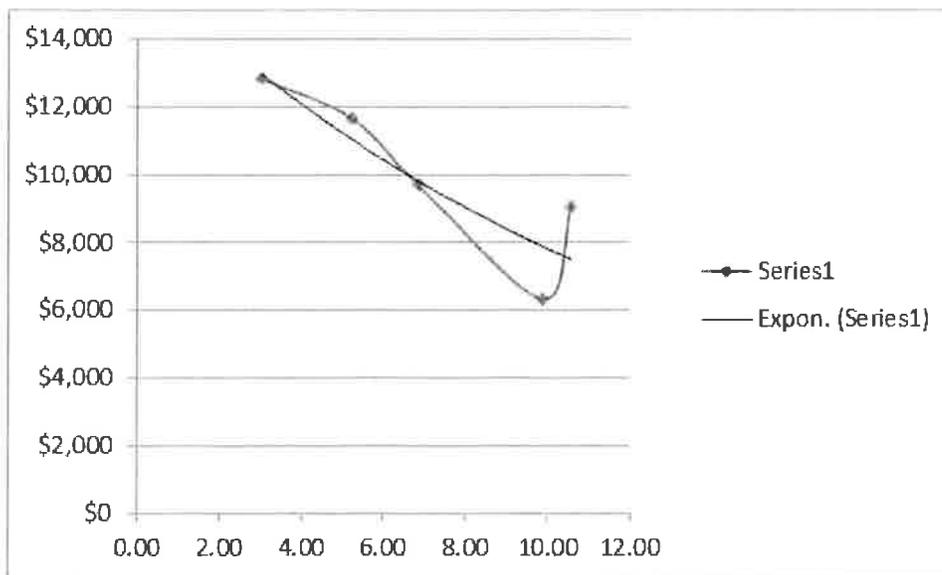


Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 7 acres. As can be seen in the chart below, this lines up with the trendline running right through the purchase price for the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm. I note that this property was improved with a 3,196 square foot ranch built in 2018 following the land purchase, which shows that development near the solar farm was unimpeded.

Adjoining Residential Land Sales After Solar Farm Approved

Adjoining Sales Adjusted

Solar	Tax/Street	Acres	Date Sold	Sales Price	\$/Ac	Time	Location	\$/Ac
Adjoins	227039/Mariposa	6.86	12/6/2017	\$66,500	\$9,694			\$9,694
Not	227852/Abernathy	10.57	5/9/2018	\$97,000	\$9,177	-\$116		\$9,061
Not	17443/Legion	9.87	9/7/2018	\$64,000	\$6,484	-\$147		\$6,338
Not	177322/Robinson	5.23	5/12/2017	\$66,500	\$12,715	\$217	-\$1,272	\$11,661
Not	203386/Carousel	2.99	7/13/2018	\$43,500	\$14,548	-\$262	-\$1,455	\$12,832



12. Matched Pair – Candace Solar, Princeton, NC



This solar farm is located at 4839 US 70 Highway just east of Herring Road. This solar farm was completed on October 25, 2016.

I identified three adjoining sales to this tract after development of the solar farm with frontage on US 70. I did not attempt to analyze those sales as they have exposure to an adjacent highway and railroad track. Those homes are therefore problematic for a matched pair analysis unless I have similar homes fronting on a similar corridor.

I did consider a land sale and a home sale on adjoining parcels without those complications.

The lot at 499 Herring Road sold to Paradise Homes of Johnston County of NC, Inc. for \$30,000 in May 2017 and a modular home was placed there and sold to Karen and Jason Toole on September 29, 2017. I considered the lot sale first as shown below and then the home sale that followed.

Adjoining Land Sales After Solar Farm Approved						Adjoining Sales Adjusted					
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Other	Time	Site	Other	Total	% Diff
16	Adjoins	499 Herring	2.03	5/1/2017	\$30,000					\$30,000	
	Not	37 Becky	0.87	7/23/2019	\$24,500	Sub/Pwr	-\$1,679	\$4,900		\$27,721	8%
	Not	5858 Bizzell	0.88	8/17/2016	\$18,000		\$390	\$3,600		\$21,990	27%
	Not	488 Herring	2.13	12/20/2016	\$35,000		\$389			\$35,389	-18%
Average											5%

Following the land purchase, the modular home was placed on the site and sold. I have compared this modular home to the following sales to determine if the solar farm had any impact on the purchase price.

Adjoining Residential Sales After Solar Farm Approved													
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	
16	Adjoins	499 Herring	2.03	9/27/2017	\$215,000	2017	2,356	\$91.26	4/3	Drive	Modular		
	Not	678 WC	6.32	3/8/2019	\$226,000	1995	1,848	\$122.29	3/2.5	Det Gar	Mobile	Ag bldgs	
	Not	1810 Bay V	8.70	3/26/2018	\$170,000	2003	2,356	\$72.16	3/2	Drive	Mobile	Ag bldgs	
	Not	1795 Bay V	1.78	12/1/2017	\$194,000	2017	1,982	\$97.88	4/3	Drive	Modular		
Adjoining Residential Sales Af Adjoining Sales Adjusted												Avg	
Parcel	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
16	Adjoins	499 Herring								\$215,000			488
	Not	678 WC	-\$10,037	-\$25,000	\$24,860	\$37,275	-\$5,000	-\$7,500	-\$20,000	\$220,599	-3%		
	Not	1810 Bay V	-\$2,579	-\$20,000	\$11,900	\$0				\$159,321	26%		
	Not	1795 Bay V	-\$1,063		\$0	\$21,964				\$214,902	0%		
												8%	

The best comparable is 1795 Bay Valley as it required the least adjustment and was therefore most similar, which shows a 0% impact. This signifies no impact related to the solar farm.

The range of impact identified by these matched pairs ranges are therefore -3% to +26% with an average of +8% for the home and an average of +5% for the lot, though the best indicator for the lot shows a \$5,000 difference in the lot value due to the proximity to the solar farm or a -12% impact.



This project was built in 2017 and located on 413.99 acres for a 71 MW with the closest home at 135 feet from the closest solar panel with an average distance of 375 feet.

I considered the recent sales identified on the map above as Parcels 2 and 3, which is directly across the street these homes are 330 and 340 feet away. Parcel 2 includes an older home built in 1976, while Parcel 3 is a new home built in 2019. So the presence of the solar farm had no impact on new construction in the area.

The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2923 County Ln	8.98	2/28/2019	\$385,000	1976	2,905	\$132.53	3/3	2-Car	Ranch	Brick/Pond	340
Not	1928 Shaw Mill	17.00	7/3/2019	\$290,000	1977	3,001	\$96.63	4/4	2-Car	Ranch	Brick/Pond/Rental	
Not	2109 John McM.	7.78	4/25/2018	\$320,000	1978	2,474	\$129.35	3/2	Det Gar	Ranch	Vinyl/Pool,Stable	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2923 County Ln								\$385,000		3%
Not	1928 Shaw Mill	-\$3,055	\$100,000	-\$1,450	-\$7,422	-\$10,000			\$368,074	4%	
Not	2109 John McM.	\$8,333		-\$3,200	\$39,023	\$10,000		\$5,000	\$379,156	2%	

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2935 County Ln	1.19	6/18/2019	\$266,000	2019	2,401	\$110.79	4/3	Gar	2-Story		330
Not	3005 Hemingway	1.17	5/16/2019	\$269,000	2018	2,601	\$103.42	4/3	Gar	2-Story		
Not	7031 Glynn Mill	0.60	5/8/2018	\$255,000	2017	2,423	\$105.24	4/3	Gar	2-Story		
Not	5213 Bree Brdg	0.92	5/7/2019	\$260,000	2018	2,400	\$108.33	4/3	3-Gar	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2935 County Ln								\$266,000		3%
Not	3005 Hemingway	\$748		\$1,345	-\$16,547				\$254,546	4%	
Not	7031 Glynn Mill	\$8,724		\$2,550	-\$1,852				\$264,422	1%	
Not	5213 Bree Brdg	\$920		\$1,300	\$76			-\$10,000	\$252,296	5%	

Both of these matched pairs adjust to an average of +3% on impact for the adjoining solar farm, meaning there is a slight positive impact due to proximity to the solar farm. This is within the standard +/- of typical real estate transactions, which strongly suggests no impact on property value. I noted specifically that for 2923 County Line Road, the best comparable is 2109 John McMillan as it does not have the additional rental unit on it. I made no adjustment to the other sale for the value of that rental unit, which would have pushed the impact on that comparable downward – meaning there would have been a more significant positive impact.



15. Matched Pair – Sunfish Farm, Keenebec Rd, Willow Spring, NC



This project was built in 2015 and located on 49.6 acres (with an inset 11.25 acre parcel) for a 6.4 MW project with the closest home at 135 feet with an average distance of 105 feet.

I considered the 2017 sale identified on the map above, which is 205 feet away from the closest panel. The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site. The average difference in the three comparables and the subject property is +3% after adjusting for differences in the sales date, year built, gross living area, and other minor differences. This data is supported by the comments from the broker Brian Schroepfer with Keller Williams that the solar farm had no impact on the purchase price.

Adjoining Residential Sales After Solar Farm Approved

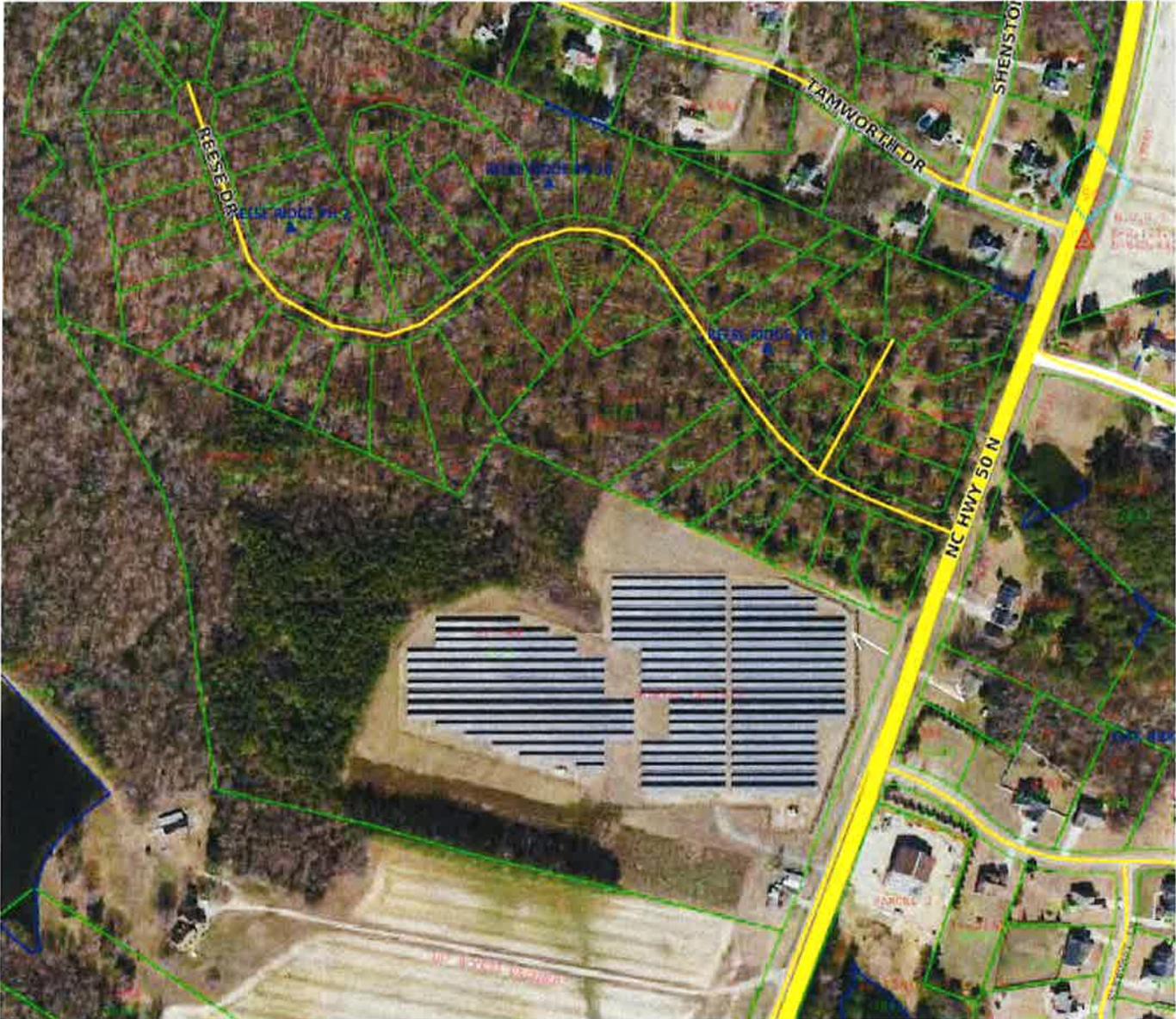
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	7513 Glen Willow	0.79	9/1/2017	\$185,000	1989	1,492	\$123.99	3/2	Gar	BR/Rnch
	Not	2968 Tram	0.69	7/17/2017	\$155,000	1984	1,323	\$117.16	3/2	Drive	BR/Rnch
	Not	205 Pine Burr	0.97	12/29/2017	\$191,000	1991	1,593	\$119.90	3/2.5	Drive	BR/Rnch
	Not	1217 Old Honeycutt	1.00	12/15/2017	\$176,000	1978	1,558	\$112.97	3/2.5	2Carprt	VY/Rnch

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	7513 Glen Willow								\$185,000		
Not	2968 Tram	\$601		\$3,875	\$15,840		\$10,000		\$185,316	0%	
Not	205 Pine Burr	-\$1,915		-\$1,910	-\$9,688	-\$5,000			\$172,487	7%	
Not	1217 Old Honeycutt	-\$1,557		\$9,680	-\$5,965	-\$5,000		\$5,280	\$178,438	4%	

3%

16. Matched Pair – HCE Johnston I, LLC, Benson, NC



This 2.6 MW project was built in 2015 and located on 30.55 acres.

There is a new subdivision that was developed in 2019 just north of this solar farm called Reese's Ridge. This location is near the McGees Crossroads near Mount Pleasant Road. As can be seen in the map below, the adjoining land to the north of this solar farm was purchased in 2017 and subdivided as Reese Ridge with 0.49 to 0.53 acre lots. Most of the trees on this site were cleared as part of the development with a single row of pine trees retained as a buffer along the solar farm. The first six lots on the south side of Reese Drive are around 115 feet from the center point in the lot to the nearest solar farm panel. This tract of land was purchased on September 7, 2017 for \$925,000 for 42.388 acres, or \$21,822 per acre.

The proposed homes will be custom homes starting at \$330,000. County water is available and the homes will use individual septic tanks. I spoke with Amanda with The Rodney Carroll Team who is marketing the homes and she indicated that 7 custom home builders had a lottery to purchase all of the lots.

Three different builders have purchased lots adjoining the solar farm for \$60,000 each. Similar lots across Reese Drive and further from the solar farm are selling at the same \$60,000 each. At \$60,000 this indicates a lot-to-home ratio of 18%, which is typical for new home construction in the county where there is no amenity package.



Since then a home was built and then sold at 63 Reese Drive, which is two lots off of NC 50 and backs up to the solar farm. Similarly, 107 Reese Drive which is six lots off of NC 50 and backs up to the solar farm. I have considered both of these for matched pairs as shown below.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins		107 Reese Drive	0.69	11/27/2019	\$393,000	2019	2,960	\$132.77	3/3	2-Car	1.5 Vinyl	
Not		200 Reese Drive	0.44	2/19/2020	\$400,000	2019	3,209	\$124.65	3/2.5	2-Car	1.5 Batten/Stone	
Not		35 Pawnee Pl	0.65	5/30/2018	\$325,000	2017	2,609	\$124.57	4/3	2-Car	1.5 Vinyl/Stone	
Not		278 Timber Wolf	0.88	1/24/2020	\$367,443	2019	2,983	\$123.18	3/3	2-Car	1.5 Vinyl/Stone	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins		107 Reese Drive			\$0	-\$24,830	\$5,000			\$393,000		5%
Not		200 Reese Drive	-\$2,831							\$377,338	4%	
Not		35 Pawnee Pl	\$14,954		\$3,250	\$34,979				\$378,183	4%	
Not		278 Timber Wolf	-\$1,796		\$0	-\$2,266				\$363,381	8%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins		63 Reese Drive	0.45	3/24/2020	\$410,000	2019	3,240	\$126.54	4/3	2-Car	Ranch/Wd	
Not		200 Reese Drive	0.44	2/19/2020	\$400,000	2019	3,209	\$124.65	3/2.5	2-Car	1.5 Batten/Stone	
Not		320 Wolf Den	0.97	9/27/2019	\$377,780	2019	3,122	\$121.01	4/3	2-Car	1.5 Vinyl/Stone	
Not		37 Makers Way	0.59	5/29/2019	\$373,508	2019	3,122	\$119.64	4/3	3-Car	1.5 Vinyl/Stone	
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins		63 Reese Drive			\$0	\$2,705	\$5,000			\$410,000		3%
Not		200 Reese Drive	\$1,146		\$0					\$408,851	0%	
Not		320 Wolf Den	\$5,699		\$0	\$9,995				\$393,474	4%	
Not		37 Makers Way	\$9,443		\$0	\$9,882		-\$5,000		\$387,833	5%	

After adjustments, the two sales support a conclusion of no impact on property value due to the solar farm. I spoke with Rodney Carroll the broker marketing the homes and he indicated that the solar farm had zero impact on the sales price and they were marketing it as the best neighbor you could have.

Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, with most of the projects being in areas with a 1-mile radius population under 1,000, but with several outliers showing solar farms in farm more urban areas.

The median income for the population within 1 mile of a solar farm is \$56,115 with a median housing unit value of \$201,708. Most of the comparables are under \$350,000 in the home price, with \$770,000 being the high end of the set of matched pairs in my larger data set.

The adjoining uses show that residential and agricultural uses are the predominant adjoining uses.

These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural.

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2010-2019 Data)		
Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com	Population	Med. Income	Avg. Housing Unit	
1	AM Best	Goldsboro	NC	38	5.00	2	38%	23%	0%	39%	1,523	\$37,358	\$148,375
2	White Cross	Chapel Hill	NC	45	5.00	50	5%	51%	44%	0%	213	\$67,471	\$319,929
3	Wagstaff	Roxboro	NC	30	5.00	46	7%	89%	4%	0%	336	\$41,368	\$210,723
4	Gaston SC	Gastonia	NC	35	5.00	48	33%	23%	0%	44%	4,689	\$35,057	\$126,562
5	Summit	Moyock	NC	2034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
6	White Cross II	Chapel Hill	NC	34	2.80	35	25%	75%	0%	0%	213	\$67,471	\$319,929
7	Tracy	Bailey	NC	50	5.00	10	29%	71%	0%	0%	312	\$43,940	\$99,219
8	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
9	Beetle-Shelby	Shelby	NC	24	4.00	52	22%	0%	77%	1%	218	\$53,541	\$192,692
10	Courthouse	Bessemer	NC	52	5.00	150	48%	52%	0%	0%	551	\$45,968	\$139,404
11	Mariposa	Stanley	NC	36	5.00	96	48%	52%	0%	0%	1,716	\$36,439	\$137,884
12	Candace	Princeton	NC	54	5.00	22	76%	0%	24%	0%	448	\$51,002	\$107,171
13	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
14	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
15	Sunfish	Willow Spring	NC	50	6.40	30	35%	30%	35%	0%	1,515	\$63,652	\$253,138
16	HCE Johnston	Benson	NC	30	2.60	0	55%	45%	0%	0%	1,169	\$65,482	\$252,544
Average				255	22.52	43	31%	43%	21%	5%	1031	\$54,392	\$206,587
Median				48	5.00	33	31%	48%	2%	0%	500	\$56,115	\$201,708
High				2,034	80.00	150	76%	94%	83%	44%	4,689	\$79,114	\$319,929
Low				24	2.60	0	4%	0%	0%	0%	213	\$35,057	\$99,219
Apex				35	30.00		22%	20%	58%	0%	344	\$36,579	\$118,750

I have pulled 34 matched pairs from the above referenced solar farms to provide the following summary of home sale matched pairs and land sales next to solar farms. The summary shows that the range of differences is from -10% to +7% with an average of +2% and median of +2%. This means that the average and median impact is for a slight positive impact due to adjacency to a solar farm. However, this 2% rate is within the typical variability I would expect from real estate. I therefore conclude that this data shows no negative or positive impact due to adjacency to a solar farm.

Similarly, the 7 land sales shows a median impact of 0% due to adjacency to a solar farm. The range of these adjustments range from -12% to +17%. Land prices tend to vary more widely than residential homes, which is part of that greater range. I consider this data to support no negative or positive impact due to adjacency to a solar farm.

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
1	AM Best	Goldsboro	NC	Suburban	5	280	3600195570	Sep-13	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
2	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Sep-13	\$260,000		
							3600194813	Apr-14	\$258,000	\$258,000	1%
3	AM Best	Goldsboro	NC	Suburban	5	280	3600199891	Jul-14	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
4	AM Best	Goldsboro	NC	Suburban	5	280	3600198632	Aug-14	\$253,000		
							3600193710	Oct-13	\$248,000	\$248,000	2%
5	AM Best	Goldsboro	NC	Suburban	5	280	3600196656	Dec-13	\$255,000		
							3601105180	Dec-13	\$253,000	\$253,000	1%
6	AM Best	Goldsboro	NC	Suburban	5	280	3600182511	Feb-13	\$247,000		
							3600183905	Dec-12	\$240,000	\$245,000	1%
7	AM Best	Goldsboro	NC	Suburban	5	280	3600182784	Apr-13	\$245,000		
							3600193710	Oct-13	\$248,000	\$248,000	-1%
8	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Nov-15	\$267,500		
							3600195361	Sep-13	\$260,000	\$267,800	0%
9	Pine Valley	West End	NC	Rural	5	175	16893	Aug-16	\$66,000		
							16897	Aug-16	\$59,000	\$65,490	1%
10	Neal Hawkins	Gastonia	NC	Suburban	5	275	139179	Mar-17	\$270,000		
							139179	Mar-17	\$270,000	\$270,000	0%
11	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto	Apr-16	\$170,000		
							102 Timber	Apr-16	\$175,500	\$169,451	0%
12	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto	Dec-16	\$206,000		
							127 Ranchland	Jun-15	\$219,900	\$194,278	6%
13	White Cross II	Chapel Hill	NC	Rural	2.8	1,479	2018 Elkins	Feb-16	\$340,000		
							4200B Old Greensbor	Dec-15	\$380,000	\$329,438	3%
14	Tracy	Bailey	NC	Rural	5	780	9162 Winters	Jan-17	\$255,000		
							7352 Red Fox	Jun-16	\$176,000	\$252,399	1%
15	McBride Place	Midland	NC	Rural	75	275	4380 Joyner	Nov-17	\$325,000		
							3870 Elkwood	Aug-16	\$250,000	\$317,523	2%
16	Conetoe	Conetoe	NC	Rural	80	1515	287 Leigh	Mar-16	\$31,000		
							63 Brittany	Jul-16	\$18,000	\$30,372	2%
17	Beetle-Shelby	Mooresboro	NC	Rural	4	945	1715 Timber	Oct-18	\$416,000		
							1021 Posting	Feb-19	\$414,000	\$398,276	4%
18	Courthouse	Bessemer	NC	Rural	5	375	2134 Tryon Court.	Mar-17	\$111,000		
							5550 Lennox	Oct-18	\$115,000	\$106,355	4%
19	Mariposa	Stanley	NC	Suburban	5	1155	215 Mariposa	Dec-17	\$249,000		
							110 Airport	May-16	\$166,000	\$239,026	4%
20	Mariposa	Stanley	NC	Suburban	5	570	242 Mariposa	Sep-15	\$180,000		
							110 Airport	Apr-16	\$166,000	\$175,043	3%
21	AM Best	Goldsboro	NC	Suburban	5	385	103 Granville Pl	Jul-18	\$265,000		
							2219 Granville	Jan-18	\$260,000	\$265,682	0%
22	AM Best	Goldsboro	NC	Suburban	5	315	104 Erin	Jun-17	\$280,000		
							2219 Granville	Jan-18	\$265,000	\$274,390	2%
23	AM Best	Goldsboro	NC	Suburban	5	400	2312 Granville	May-18	\$284,900		
							2219 Granville	Jan-18	\$265,000	\$273,948	4%
24	AM Best	Goldsboro	NC	Suburban	5	400	2310 Granville	May-19	\$280,000		
							634 Friendly	Jul-19	\$267,000	\$265,291	5%
25	Summit	Moyock	NC	Suburban	80	570	318 Green View	Sep-19	\$357,000		
							336 Green View	Jan-19	\$365,000	\$340,286	5%
26	Summit	Moyock	NC	Suburban	80	440	164 Ranchland	Apr-19	\$169,000		
							105 Longhorn	Oct-17	\$184,500	\$186,616	-10%
27	Summit	Moyock	NC	Suburban	80	635	358 Oxford	Sep-19	\$478,000		
							176 Providence	Sep-19	\$425,000	\$456,623	4%
28	Summit	Moyock	NC	Suburban	80	970	343 Oxford	Mar-17	\$490,000		
							218 Oxford	Apr-17	\$525,000	\$484,064	1%
29	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm	Feb-19	\$155,000		
							109 Bledsoe	Jan-19	\$150,000	\$147,558	5%
30	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line	Feb-19	\$385,000		
							2109 John McMillan	Apr-18	\$320,000	\$379,156	2%

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
31	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line	Jun-19	\$266,000		
							7031 Glynn Mill	May-18	\$255,000	\$264,422	1%
32	Sunfish	Willow Sprng	NC	Suburban	6.4	205	7513 Glen Willow	Sep-17	\$185,000		
							205 Pine Burr	Dec-17	\$191,000	\$172,487	7%
33	HCE Johnston	Benson	NC	Suburban	2.6	290	107 Reese	Nov-19	\$393,000		
							200 Reese	Feb-20	\$400,000	\$377,338	4%
34	HCE Johnston	Benson	NC	Suburban	2.6	105	63 Reese	Mar-20	\$410,000		
							320 Wolf Den	Sep-19	\$377,780	\$393,474	4%

Residential Dwelling Matched Pairs Adjoining Solar Farms Summary of Matched Pairs

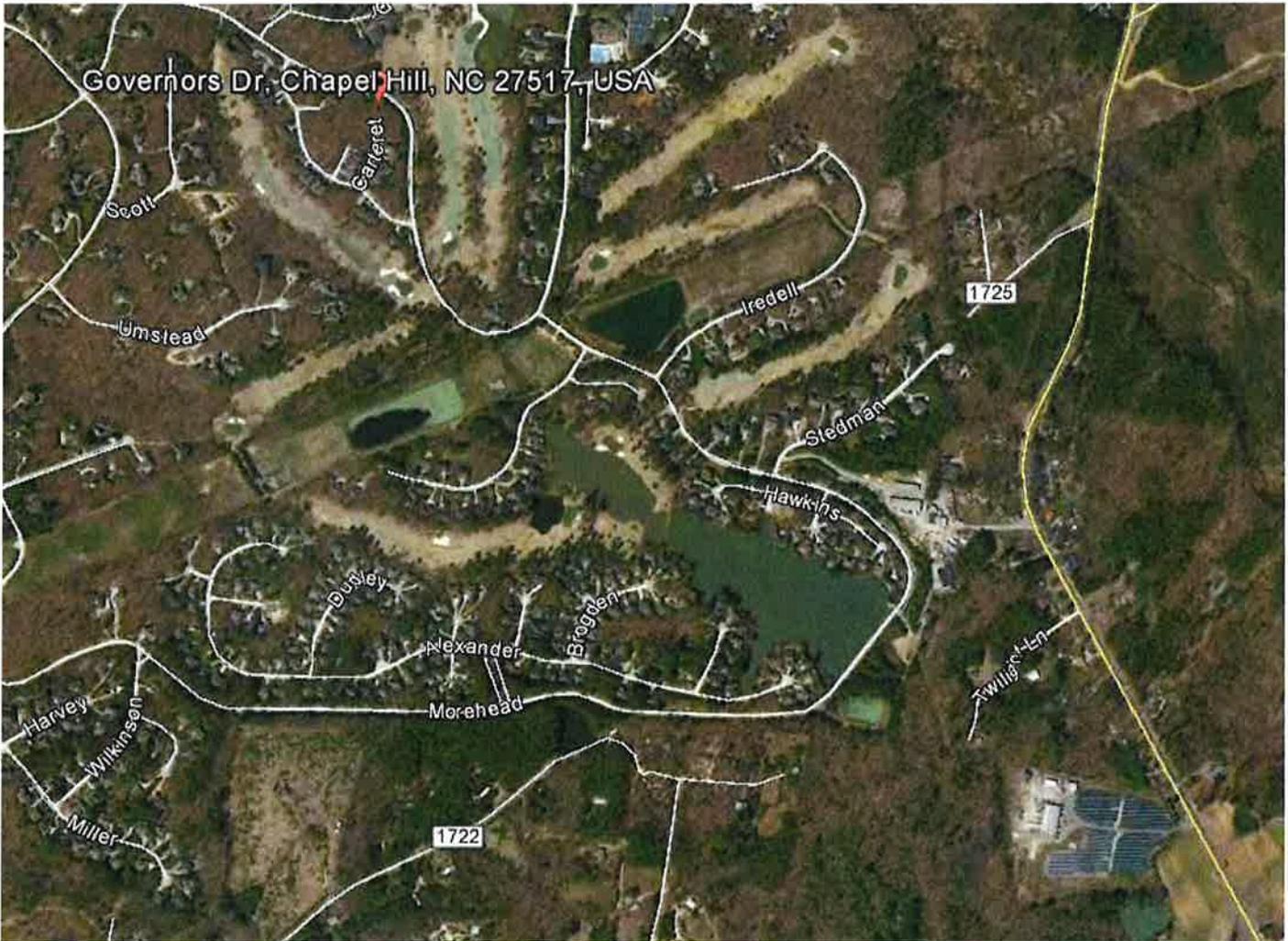
	MW	Acres		% Diff
Average	28.35	550	Average	2%
Median	5.00	358	Median	2%
High	80.00	2,020	High	7%
Low	2.60	105	Low	-10%

Land Sale Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Tax ID/Address	Sale Date	Sale Price	Acres	\$/AC	Adj.	% Diff
											\$/AC	
1	White Cross	Chapel Hill	NC	Rural	5	9748336770	Jul-13	\$265,000	47.20	\$5,614		
						9747184527	Nov-10	\$361,000	59.09	\$6,109	\$5,278	6%
2	Wagstaff	Roxboro	NC	Rural	5	91817117960	Aug-13	\$164,000	18.82	\$8,714		
						91800759812	Dec-13	\$130,000	14.88	\$8,737	\$8,737	0%
3	Tracy	Bailey	NC	Rural	5	316003	Jul-16	\$70,000	13.22	\$5,295		
						6056	Oct-16	\$164,000	41.00	\$4,000	\$4,400	17%
4	Courthouse	Bessemer	NC	Rural	5	5021 Buckland	Mar-18	\$58,500	9.66	\$6,056		
						Kiser	Nov-17	\$69,000	17.65	\$3,909	\$5,190	14%
5	Mariposa	Stanley	NC	Sub	5	174339	Jun-18	\$160,000	21.15	\$7,565		
						227852	May-18	\$97,000	10.57	\$9,177	\$7,565	0%
6	Mariposa	Stanley	NC	Sub	5	227039	Dec-17	\$66,500	6.86	\$9,694		
						177322	May-17	\$66,500	5.23	\$12,715	\$9,694	0%
7	Candace	Princeton	NC	Sub	5	499 Herring	May-17	\$30,000	2.03	\$14,778		
						488 Herring	Dec-16	\$35,000	2.17	\$16,129	\$16,615	-12%
					Average	5.00			Average		4%	
					Median	5.00			Median		0%	
					High	5.00			High		17%	
					Low	5.00			Low		-12%	

II. Harmony of Use/Compatibility

I have researched over 650 solar farms and sites on which solar farms are proposed in North Carolina and Virginia as well as other states to determine what uses and types of areas are compatible and harmonious with a solar farm. The data I have collected and provide in this report strongly supports the compatibility of solar farms with adjoining agricultural and residential uses. While I have focused on adjoining uses, I note that there are many examples of solar farms being located within a quarter mile of residential developments, including such notable developments as Governor's Club in Chapel Hill, which has a solar farm within a quarter mile as you can see on the following aerial map. Governor's Club is a gated golf community with homes selling for \$300,000 to over \$2 million.



The subdivisions included in the matched pair analysis also show an acceptance of residential uses adjoining solar farms as a harmonious use.

Beyond these anecdotal references, I have quantified the adjoining uses for a number of solar farm comparables to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining or abutting uses by total acreage.

Percentage By Adjoining Acreage

	Res	Ag	Res/AG	Comm	Ind	Avg. Dist to Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	1%	7%	849	346	92%	8%
Median	11%	57%	8%	0%	0%	661	215	100%	0%
High	100%	100%	100%	80%	96%	4,835	4,670	100%	96%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Total Solar Farms Considered: 493

I have also included a breakdown of each solar farm by number of adjoining parcels rather than acreage. Using both factors provides a more complete picture of the neighboring properties.

Percentage By Number of Parcels Adjoining

	Res	Ag	Res/AG	Comm	Ind	Avg. Dist to Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	848	346	94%	6%
Median	65%	20%	5%	0%	0%	661	215	100%	0%
High	100%	100%	100%	60%	78%	4,835	4,670	100%	78%
Low	0%	0%	0%	0%	0%	90	25	22%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Total Solar Farms Considered: 493

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. Every single solar farm considered included an adjoining residential or residential agricultural use. These comparable solar farms clearly support a compatibility with adjoining residential uses along with agricultural uses.

III. Summary of Local Solar Farm Projects

Below is a breakdown of other solar farms that have been built, approved, or undergoing the approval process in the surrounding counties. A summary of that data is presented below.

Parcel #	County	City	Name	Output Acres (MW)	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
							Res	Agri	Com	
3	Cleveland	Shelby	Kings Mtn	5	30		6%	12%	82%	
5	Catawba	Hickory	Two Lines	6.4	100.56		11%	87%	3%	
14	Lincoln	Vale	Vale Farm	5	48.99		87%	13%	0%	
77	Lincoln	Stanley	Fire Solar		129.05	820	140	77%	23%	0%
94	Cleveland	Mooreboro	Gantts Grove		15	1,043	590	21%	79%	0%
116	Rutherford	Forest City	Clear Solar		38.5	285	30	68%	32%	0%
172	Cleveland	Grover	Julie		28	255	40	21%	12%	67%
223	Gaston	Gastonia	Neal Hawkins	4.38	34.59	242	150	33%	23%	44%
227	Gaston	Bessemer City	Gaston		183.32	361	145	67%	33%	0%
231	Cleveland	Shelby	Lafayette	1,999	24.63	471	100	19%	81%	0%
234	Gaston	Bessemer City	Courthouse Rd	5	161.92	748	195	47%	52%	1%
273	Cleveland	Lawndale	Stagecoach	5	108.81	1,214	455	73%	25%	2%
315	Cleveland	Mooreboro	McCraw		250	350	119	27%	73%	0%
325	Catawba	Claremont	Highway 16	5	90.91	561	260	35%	62%	3%
342	Cleveland	Shelby	Ayrshire	26.02	118			14%	86%	0%
393	Catawba	Maiden	Simmental		1097.88			62%	38%	0%
Total Number of Solar Farms				16						
Average				7.09	153.76	577.3	202.2	42%	46%	13%
Median				5.00	95.74	471.0	145.0	34%	35%	0%
High				26.02	1097.88	1214.0	590.0	87%	87%	82%
Low				2.00	15.00	242.0	30.0	6%	12%	0%

IV. Specific Factors on Harmony with the Area

I have completed a number of Impact Studies related to a variety of uses and I have found that the most common areas for impact on adjoining values typically follow the following hierarchy with descending levels of potential impact. I will discuss each of these categories and how they relate to a solar farm.

1. Hazardous material
2. Odor
3. Noise
4. Traffic
5. Stigma
6. Appearance

1. Hazardous material

The solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development or even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known environmental impacts associated with the development and operation.

2. Odor

The various solar farms that I have inspected produced no odor.

3. Noise

Whether discussing passive solar panels with no associated noise beyond a barely audible sound during daylight hours, or single-axis trackers which have no discernable additional noise, there is no negative impact associated with noise from a solar farm. The transformer reportedly has a hum similar to an HVAC that can only be heard in close proximity to this transformer and the buffers on the property are sufficient to make emitted sounds inaudible from the adjoining properties. No sound is emitted from the facility at night.

The various solar farms that I have inspected were inaudible from the roadways.

4. Traffic

The solar farm will have no onsite employee's or staff. The site requires only minimal maintenance. Relative to other potential uses of the site (such as a residential subdivision), the additional traffic generated by a solar farm use on this site is insignificant.

5. Stigma

There is no stigma associated with solar farms and solar farms and people generally respond favorably towards such a use. While an individual may express concerns about proximity to a solar farm, there is no specific stigma associated with a solar farm. Stigma generally refers to things such as adult establishments, prisons, rehabilitation facilities, and so forth.

Solar panels have no associated stigma and in smaller collections are found in yards and roofs in many residential communities. Solar panels on a roof are often cited as an enhancement to the property in marketing brochures.

I see no basis for an impact from stigma due to a solar farm.

6. Appearance

Although “appearance” has been ruled by NC Courts to be irrelevant to the issue of “harmony with an area,” I note that larger solar farms using fixed or tracking panels are a passive use of the land that is considered in keeping with a rural/residential area. As shown below, solar farms are comparable to larger greenhouses. This is not surprising given that a greenhouse is essentially another method for collecting passive solar energy. The greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.



The solar panels are all approximately 10 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as these proposed panels.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will be in harmony with the area in which it is to be developed. The breakdown of adjoining uses is similar to the other solar farms tracked.

V. Market Commentary

I have surveyed several builders, developers and investors regarding solar farms over the last year. I have received favorable feedback from a variety of sources; below are excerpts from my conversations with different clients or other real estate professionals.

Rex Vick with Windjam Developers has a subdivision in Chatham County off Mt. Gilead Church Road known as The Hamptons. Home prices in The Hamptons start at \$600,000 with homes over \$1,000,000. Mr. Vick expressed interest in the possibility of including a solar farm section to the development as a possible additional marketing tool for the project.

Mr. Eddie Bacon, out of Apex North Carolina, has inherited a sizeable amount of family and agricultural land, and he has expressed interest in using a solar farm as a method of preserving the land for his children and grandchildren while still deriving a useful income from the property. He believes that solar panels would not in any way diminish the value for this adjoining land.

I spoke with Carolyn Craig, a Realtor in Kinston, North Carolina who is familiar with the Strata Solar Farms in the area. She noted that a solar farm in the area would be positive: "A solar farm is color coordinated and looks nice." "A solar farm is better than a turkey farm," which is allowed in that area. She would not expect a solar farm will have any impact on adjoining home prices in the area.

Mr. Michael Edwards, a broker and developer in Raleigh, indicated that a passive solar farm would be a great enhancement to adjoining property: "You never know what might be put on that land next door. There is no noise with a solar farm like there is with a new subdivision."

These are just excerpts I've noted in my conversations with different clients or other real estate participants that provided other thoughts on the subject that seemed applicable. Although they are not the same form of evidence provided by a matched pair, interviewing reliable people with direct knowledge of local markets provides an extra layer of analysis to confirm the market data. Essentially, this provides some context for the data shown in the matched pairs.

VI. Conclusion

The matched pair analysis shows no impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by N.C. Courts or overturned by N.C. Courts when a board found otherwise (see, for example *Dellinger v. Lincoln County*). Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments. Industrial uses rarely absorb negative impacts from adjoining uses.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will not substantially injure the value of adjoining or abutting property and that the proposed use is in harmony with the area in which it is located.



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PROFESSIONAL EXPERIENCE

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
Hester & Company , Raleigh, N.C. Commercial appraiser	1996 – 2003

PROFESSIONAL AFFILIATIONS

MAI (Member, Appraisal Institute) designation #11796	2001
NC State Certified General Appraiser # A4359	1999
VA State Certified General Appraiser # 4001017291	
OR State Certified General Appraiser # C001204	
SC State Certified General Appraiser # 6209	

EDUCATION

Bachelor of Arts in English , University of North Carolina, Chapel Hill	1993
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CONTINUING EDUCATION

Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012
Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005

Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996